

**UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF NEW YORK**

IN RE:

KEURIG GREEN MOUNTAIN SINGLE
SERVE COFFEE ANTITRUST
LITIGATION

JBR, Inc. (D/B/A ROGERS FAMILY
COMPANY),

Plaintiff/
Counterclaim Defendant,

v.

KEURIG GREEN MOUNTAIN, INC. (F/K/A
GREEN MOUNTAIN COFFEE ROASTERS,
INC. AND AS SUCCESSOR TO KEURIG,
INC.),

Defendant/
Counterclaim Plaintiff.

ECF Case

MDL No. 2542

Master Docket No. 1:14-md-2542-VSB-SLC

1:14-cv-04242-VSB-SLC

**MEMORANDUM OF LAW IN SUPPORT OF PLAINTIFF'S MOTION TO EXCLUDE
THE PROPOSED TESTIMONY OF MARC HILLMYER**

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I. INTRODUCTION

Plaintiff JBR, Inc. (d/b/a Rogers Family Company) (“Rogers” or “JBR”) hereby requests that the Court exclude the testimony of Defendant Keurig Green Mountain, Inc.’s (“Keurig”) retained expert witness, Marc A. Hillmyer, Ph.D., because Dr. Hillmyer’s testimony does not satisfy Federal Rule of Evidence 702 or the standards set forth in *Daubert v. Merrell Dow Pharmas, Inc.*, 509 U.S. 579 (1993), or Federal Rule of Evidence 403.

The expertise of Keurig’s expert chemist Dr. Marc Hillmyer simply does not match the scientific questions at issue in Keurig’s claim against JBR. Dr. Hillmyer’s opinion on the scientific questions at issue is therefore unreliable and without sufficient foundation. *See Pension Comm. of Univ. of Montreal Pension Plan v. Banc of Am. Sec., LLC*, 691 F. Supp. 2d 448, 481 (S.D.N.Y. 2010) (an expert’s opinions must be based upon a “reliable foundation”), citing *Daubert*, 509 U.S. at 595.

Keurig’s basic claim is that JBR’s OneCup portion pack product (or pod) is incapable of biodegrading in a landfill or compost environment in a reasonable amount of time. However, Dr. Hillmyer has no expertise in measuring or analyzing the rate and timing of degradation of bioplastics in soil, landfills, compost, or even lab simulations. In his own work, when faced with questions on rate of degradation, he farms out such first-hand research to a different set of researchers at a different university in another state. Worse, for his assignment here, Dr. Hillmyer did ***no degradation studies*** of JBR’s pods, and he did not commission anyone else to test JBR’s pods. He postulated the expected rates of degradation for the pods, but the articles Dr. Hillmyer relied upon reflect that the scientific community, as a whole has not tested JBR’s pods or similar components in systematic, reliable, peer-review manner.

Because Dr. Hillmyer lacks the expertise and didn't undertake the scientific methodologies necessary to support his opinions concerning the speed of degradability of the product at issue, his opinions should be excluded as unreliable.

II. STATEMENT OF RELEVANT FACTS

A. Dr. Hillmyer's OneCup Analysis Omits Any Scientific Testing of the Relevant Product or Components

Keurig's counterclaim asserts that JBR's products are misleadingly advertised as biodegradable, compostable, and eco-friendly. ECF No. 416 [2/6/18 Keurig Counterclaim] at ¶¶ 2, 20-26.

To support Keurig's counterclaim relating to JBR's environmental claims, Dr. Hillmyer opines that it would take many years for the polylactic acid (PLA or polylactide) in OneCups to degrade in landfills, home compost piles, or other soil conditions. Ex. A [Hillmyer Report] at ¶¶ 23 ("it would take over 100 years for polylactide to significantly biodegrade under common landfill condition"), 56 ("I expect that the polylactide component of the lid would not significantly biodegrade in a typical home compost environment over many years"), 61, 62, 65, 66, 72, 75, 76, 78; Ex. B [Hillmyer Reply Report], ¶¶ 12, 15.¹ This opinion was couched to match the rhetoric of Keurig's lawyers in Keurig's counterclaim. After filing that counterclaim three and a half years ago, Keurig had ample opportunity to find an expert who could use the OneCup product, test it, and provide scientific opinions based on those tests. Neither Keurig nor Dr. Hillmyer did that.

Dr. Hillmyer, a chemist and University of Minnesota department chair with a Ph.D. from the California Institute of Technology (CalTech), received dozens of samples of JBR's product, but didn't bother to test any of them in a (a) lab, (b) an industrial compost environment, (b)

¹ Unless otherwise specified, all cited exhibits are to the Declaration of Mario Moore in Support of Plaintiff's Motion to Exclude the Testimony of Marc Hillmyer, filed herewith.

simulated landfill conditions, (c) actual landfill conditions, or (e) perform any chemical analysis making use of his chemistry background (Ex. C [Hillmyer Dep.] at 43:2-44:14):

Q. Now, in working on your assignment, you looked at some of the JBR pods?

A. Yes.

Q. How did you choose which version to look at?

A. The pods -- the box of pods were provided to me by counsel, so I looked at those.

Q. What did you do with them?

A. I disassembled them and weighed them.

Q. Anything else?

A. No.

Q. Okay. Did you take any of the pods to a *lab*?

A. No.

Q. Did you do any *chemical analysis* of the pods?

A. I did not.

Q. Did you do any work in testing the pods in a compost pile?

A. I did not.

Q. Did you do any work in *testing the pods in an industrial compost environment*?

A. No.

Q. Did you do any work in testing the pods in *simulated landfill conditions*?

A. No.

Q. Did you test the pods in any *actual landfill conditions*?

A. No.

Q. Why not?

A. It was not part of my assignment to test the pods in those latter conditions, other than weighing them.

Dr. Hillmyer could not have done any such landfill testing because he has no experience with testing in simulated or actual landfill conditions. Nor could he have tested for composting conditions, because he does no such testing himself; instead he farms out testing in industrial composting conditions to the University of Georgia. Ex. C at 14:25-15:23. Dr. Hillymer was careful to note that he did not rely on the expertise of the group at University Georgia, or for that manner, any other testing expert to assess whether Rogers pods were industrial compostable. Ex. C at 45:15-18 ("Q. Are you relying on any *testing of the pods by anyone else*? A. No, not with -- not for the scope of my scientific assignment.").

Dr. Hillmyer's failure to either personally test the product, or rely on testing by knowledgeable experts, was a critical omission in his analysis, because he has left himself without any direct studies on which to base his opinion on the rate of degradation of OneCups. There are no published or unpublished studies by others that Dr. Hillmyer could rely upon. He therefore candidly admits that he is opining regarding the degradation of Rogers OneCups without any knowledge of any testing of degradation by anyone ever in a landfill, home composting, or compost environment (Ex. C at 53:2-18):

Q. Okay. To your knowledge, has anyone tested the Rogers product in actual landfill conditions and measured its degradation over time?

A. The Rogers OneCup product?

Q. Yeah.

A. I do not have knowledge of anybody testing the Rogers OneCup product in a landfill.

Q. To your knowledge, has anyone tested the Rogers OneCup product in a natural environment?

A. No, not to my knowledge.

Q. Has anyone tested the Rogers OneCup product in a home compost environment?

A. I'm not aware of a test of the Rogers OneCup product in a home compost environment.

At the same time, Dr. Hillmyer concedes that the OneCup was certified as biodegradable by multiple standards bodies, and does not dispute that they were tested in order and met the standards for those certifications. Ex. C at 23:25-24:5, 94:19-96:3.

B. Dr. Hillmyer Lacks Any Expertise in Testing Bioplastics for Degradation Rate and Timing

Despite opining on the rate of degradation of OneCups in landfill and composting settings, Dr. Hillmyer admits numerous facts indicating that he lacks the expertise to opine on the issue. While familiar with polymer chemistry and synthesis and product development of certain bioplastics, Dr. Hillmyer is not an expert on *degradation of plastics* in landfill, composting, or general soil conditions. He has never published in the area. Ex. C at 81:15-18 ("Q. Okay. So you

haven't published on degradation of PLA in landfills or home composting or natural-environment conditions. A. **I have not.”**). He does not hold himself out as an expert in sampling soil, soil site testing, or environmental engineering. Ex. C at 76:3-13, 80:5-6 (“**I do not have any expertise** doing site investigation at particular soil sites.”). He does not have any experience in doing soil mapping or EPA testing to assess how plastic reacted to soil. *Id.* at 80:18-23. Similarly, in his coursework and teaching, he has not focused on degradation or disposal of plastic waste in soil — he did not take any courses in hydrology, geophysics, microbiology, waste engineering, waste management or soil science; nor did he teach in those areas. *Id.* at 75:11-76:7.

While Dr. Hillmyer has published numerous papers on polymer research, his only paper mentioning degradation of a PLA-based product in soil was a paper on which he did none of the testing first-hand, but simply collaborated with University of Georgia researchers who had the education, experience, and lab equipment necessary to do the actual testing (only in industrial composting conditions). *Id.* at 80:24-81:10.² Needless to say that one paper did not rely on any expertise from Dr. Hillmyer in assessing how the PLA reacted to the soil. That topic was in the wheelhouse of the co-authors of the paper, not Dr. Hillmyer. *Id.* at 116:4-21.

Although Dr. Hillmyer was familiar with the University of Georgia group focused on degradation of plastics in industrial composting conditions, he did not believe their expertise or lab equipment was suited to also studying plastic degradation in landfills. *Id.* at 77:4-13 (“It's my sense that they're largely focused on industrial compost conditions”). Notably, Dr. Hillmyer did not provide the Georgia group with any of the OneCup products provided to him by counsel. *Id.* at 78:1-3. Additionally, Dr. Hillmyer couldn't recall any situation in which the University of

² Dr. Hillmyer concedes that the current JBR OneCup product is industrial compostable, as well as the PLA based components of previous iterations of the product.

Georgia group had collected data on degradation of PLA in landfill or natural environment conditions. Ex. C at 116:22-117:12.

In his scientific work, Dr. Hillmyer does not collaborate with those in the scientific community who monitors degradation of plastic components or compounds in landfills (*Id.* at 79:11-17):

Q. Okay. Who are you aware of in the scientific community that has expertise and experience monitoring, inspecting, and testing landfill sites?
A. I don't know -- ***I don't know those people.***

Not knowing who to ask, Dr. Hillmyer didn't ask anyone to test the OneCup product in landfill conditions.

C. Dr. Hillmyer's Cited Publications Lack Any Basis in Testing of Degradation of the Relevant Product in Real World Conditions.

Separate and apart from his lack of expertise in the relevant field, the science relating to degradation of PLA is so new that real world scenarios relating to plastic degradation relevant to this case have not been fully studied by researchers anywhere. Ex. D [Greene Dep.] at 117:11-118:4, 118:11-18, 195:11-200:21; Ex. E [Greene Report], ¶¶ 63-66. It was therefore not surprising that Dr. Hillmyer was unable to cite or rely upon any actual studies of PLA degradation or OneCup degradation in real world conditions to support his opinions relating to rate of degradation. For example, he was unaware of any studies relating to PLA degradation in different types of real-world landfill conditions, such as different humidity levels, different sunlight exposure levels, and different microbe populations (Ex. C at 55:21-58:19):

56:10-18:

Q. Now, in connection with the work relating to study of degradation of PLA, are you aware of any articles that discuss the effect of different soil pH's on the degradation of PLA in actual real-world soil samples?

A. I -- I would expect that they exist -- that they exist, and -- but ***I'm not going to be able to tell you exactly which one or ones have done that.***

57:14-18:

Q.Are you aware of any studies of the effect of that differing sunlight exposure on the soil and its effect in turn on degradation of PLA in that soil?

A. **I'm not.**

58:11-19:

Has anyone in the scientific community done work on the effect of higher humidity profiles in actual real-world soil on the level of degradation of PLA in that soil?

A. I -- they probably exist, and **I'm remembering some studies maybe, but I couldn't tell you who the first author is, about humidity effects on PLA degradation in soil.**

A major piece of Dr. Hillmyer's opinion is his reliance on lab simulation studies done by a handful of authors of papers Dr. Hillmyer pulled from various databases and publications. But he admittedly was not directly or even indirectly involved in any of those researchers' studies, and he never interviewed any of those researchers or asked them to undertake any testing of Rogers' OneCups or any its components. Ex. C at 74:13-21, 78:1-3, 53:2-15. His reliance on those few papers by others whom he never spoke with demonstrates that he is without any firsthand knowledge of the conditions in which they tested, or whether the items they tested had any resemblance or similarity to the OneCup product that is at issue in the litigation. The reality is that no one — neither Dr. Hillmyer, nor anyone else — has tested the OneCup or any similar product in real world conditions to assess its rate of degradation in landfills, industrial compost conditions, or home compost conditions.

The only testing of the OneCups that actually is available in the record is the back-up for the JBR's certification of the pods with various industry certification groups including Vincotte and the Biodegradable Products Institute. Ex. E at pp. 26-27. Dr. Hillmyer acknowledges those certifications and does not dispute that JBR undertook testing in order to obtain those certifications. Ex. C at 23:25-24:5, 94:19-96:3.

III. ARGUMENT

“Trial courts have been instructed by *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579 (1993) and *Kumho Tire Co., Ltd. v. Carmichael*, 526 U.S. 137 (1999) to make certain that testimony based upon scientific knowledge or upon technical and other specialized knowledge is reliable and not speculative.” *Mannix v. Chrysler Corp.*, No. 97-CV-1944 (ILG), 2001 WL 477291, at *4 (E.D.N.Y. Mar. 4, 2001). Unfortunately, Dr. Hillmyer’s testimony fails to satisfy this standard because it is not based on scientific knowledge, is not reliable, and is wholly speculative.

A. Dr. Hillmyer’s Expertise Does Not Match the Relevant Scientific Issues

Dr. Hillmyer’s expertise fundamentally fails to fit with the relevant issue posited in Keurig’s counterclaim – the purported rate of degradation of Rogers OneCups and their components.

The party seeking to qualify a witness as an expert must establish that the witness possesses “scientific, technical or other specialized knowledge,” relevant to issues in the case, as required by Rule 702, based on the witness’s “knowledge, skill, experience, training or education.” Rule 702. Whether a witness possesses these attributes sufficient to qualify as an expert witness in the particular case “is within the broad discretion” of the Court. *Stagl v. Delta Air Lines, Inc.*, 117 F.3d 76, 81 (2d Cir.1997) (citing *Boucher v. U.S. Suzuki Motor Corp.*, 73 F.3d 18, 21 (2d Cir.1996) (per curium)). An expert may only opine on matters “within the reasonable confines of his subject area, and cannot render expert opinion on an entirely different field or discipline.” *Lappe v. American Honda Motor Co., Inc.*, 857 F.Supp. 222, 227–28 (N.D.N.Y.1994). An otherwise well-credentialed expert’s opinion is subject to disqualification if he fails to employ investigative techniques or cannot explain the technical basis for his opinion. See *Dreyer v. Ryder Auto. Carrier Grp., Inc.*, 367 F. Supp. 2d 413, 416–17 (W.D.N.Y. 2005); *Mannix v. Chrysler Corp.*, No. 97–

CV-1944, 2001 WL 477291, at *4 (E.D.N.Y. March 4, 2001) (excluding opinion by engineer with Master's Degree from Columbia University as unreliable "junk science engineering" where he "never inspected the airbag he opines was the cause of the fire" and lacked expertise and course work in fire investigations.).

Dr. Hillmyer lacks any experience, expertise, or coursework background necessary to obtain appropriate evidence on topics relating to degradation of plastics in soil. Dr. Hillmyer is a specialist in developing new polymers and new plastic products, not testing the degradation of plastic products that have already been manufactured. Dr. Hillmyer's report recites no experience measuring the rate of degradation of plastic compounds and components in a lab or in field studies, controlling for soil type, temperature, humidity level, light exposure, microbe population, and other variables. Ex. C at 76:3-13, 80:5-6; 80:18-23; 81:15-18. Dr. Hillmyer does not recite any instances of taking samples from particular conditions and testing plastic degradation rates in any given set of conditions. He admitted no awareness of any relevant coursework in soil degradation, such as soil hydrology. *Id.* at 75:11-76:7. He admitted never doing any study of any plastic degradation in landfill soil, composting bins, industrial compost facilities, or any other facilities. *Id.* at 76:3-13, 80:5-6; 80:18-23; 81:15-18. He also had done no work in attempting to replicate landfill conditions or composting conditions in any of his lab work. *Id.* at 75:11-76:7. He admitted no awareness of any studies of degradation of the PLA in real world soil or real-world landfills. *Id.* at 55:21-58:19.

The situation is analogous to several cases that excluded experts who had knowledge or experience relating to polymers or plastic products, but lacked expertise in degradation studies and appropriate testing. For example, several cases have excluded experts who are familiar with plastic medical devices, but lacked experience testing the products for degradation in the body. *Griffin v.*

Bos. Sci. Corp., No. 2:13-CV-11876, 2016 WL 3031700, at *7 (S.D.W. Va. May 25, 2016) (excluding expert's testing as unreliable because expert lacked experience testing degradation in conditions in human body); *Wilkerson v. Bos. Sci. Corp.*, No. 2:13-CV-04505, 2015 WL 2087048, at *7 (S.D.W. Va. May 5, 2015) (while "Dr. Rosenzweig has years of experience operating with polypropylene mesh products, his expert report does not convey any similar experience, education, or knowledge about the appropriate testing a medical device manufacturer should perform on its products"); *Wilichowski v. Bos. Sci. Corp.*, No. 5:21-CV-5024, 2021 WL 1197795, at *5 (W.D. Ark. Mar. 29, 2021) (same); *Huskey v. Ethicon, Inc.*, 29 F. Supp. 3d 691, 722 (S.D.W. Va. 2014) (finding urologist/surgeon unqualified to opine about mesh shrinkage and degradation because he lacked experience with mesh degradation or shrinkage, despite reliance on scientific literature in forming his opinions); *Tyree v. Bos. Sci. Corp.*, No. 2:12-CV-08633, 2014 WL 5486694, at *48 (S.D.W. Va. Oct. 29, 2014) (excluding expert as unqualified based on lack of expertise in biomaterials, reliance on other experts' depositions to educate himself on degradation, failure to perform any tests on shrinkage, and failure to look for or recall studies on mesh shrinkage).

In light of the case law, Dr. Hillmyer's generalized experience in chemistry and polymers is simply insufficient to provide assurance of reliability with regard to degradation of polymers, given his lack of experience with degradation of any particular polymer, or PLA in particular, in landfill conditions, industrial compost conditions, home conditions, and general soil conditions. See, e.g., *Winebarger v. Bos. Sci. Corp.*, No. 2:13-CV-28892, 2015 WL 1887222, at *24–25 (S.D.W. Va. Apr. 24, 2015) (general experience of chemical engineer was insufficient to show the skill, knowledge, and experience to opine on degradation of polypropylene in the conditions in the human body); *Trevino v. Bos. Sci. Corp.*, No. 2:13-CV-01617, 2016 WL 2939521, at *20–22 (S.D.W. Va. May 19, 2016) (same).

Because of Dr. Hillmyer's lack of experience in testing for the scientific issue at hand, his opinions on degradation rates for the OneCup product are unreliable and therefore inadmissible.

B. Hillmyer's opinions on rate of degradation should be excluded for lack of any scientific basis.

To pass muster, scientific opinions must be based on firsthand observation, or reliance on the work of others, in testing and analyzing the relevant product or similar product components. Here, Dr. Hillmyer did neither. Therefore, his opinion fails to satisfy admissibility standards.

"[W]hen an expert opinion is based on data, a methodology, or studies that are simply inadequate to support the conclusions reached, Daubert and Rule 702 mandate the exclusion of that unreliable opinion testimony." *Amorgianos v. Nat'l R.R. Passenger Corp.*, 303 F.3d 256, 266 (2d Cir.2002); *Gen. Elec. Co. v. Joiner*, 522 U.S. 136, 146 (1997) ("[N]othing in either Daubert or the Federal Rules of Evidence requires a district court to admit opinion evidence which is connected to existing data only by the ipse dixit of the expert. A court may conclude that there is simply too great an analytical gap between the data and the opinion proffered.").

Compounded by Dr. Hillmyer's level of expertise, his opinions on rate of degradation lack any scientific basis because Dr. Hillmyer admittedly did no testing on the JBR OneCup product or any similar product or component thereof, and relied on no testing or validation by others. As he glibly agreed, all he did was weigh the product and its components. Ex. C at 42:2-9. Certainly, the Court could admit testimony on the weight of product components without the need for a CalTech-educated chemist. *See Andrews v. Metro N. Commuter R.R. Co.*, 882 F.2d 705, 708 (2d Cir.1989) (expert testimony inadmissible when it addresses "lay matters which [the trier of fact] is capable of understanding and deciding without the expert's help").

A particularly notable omission in Dr. Hillmyer's analysis is Dr. Hillmyer's failure to call upon the expertise of the one lab at the University of Georgia that he routinely works with when

analyzing rates of degradation for other plastic products in industrial compost conditions. Dr. Hillmyer admitted that University of Georgia is the leading lab in this area at least with respect to industrial compost conditions, and he himself relies on the lab to perform analyses that Dr. Hillmyer is not qualified to do. Ex. C at 14:25-15:23. He co-published a paper with the lab in which a bio-based plastic was tested in industrial compost conditions by two of the scientists at the University of Georgia. *Id.* at 80:24-81:10, 116:4-21.³ But despite concurrently working with that lab on other projects, Dr. Hillmyer never bothered to send the JBR product to that lab. *Id.* at 45:15-18.

Aside from not calling upon his co-authors' knowledge of degradation testing procedures, Dr. Hillmyer did not contact any of the scientists who have published reports on testing of bioplastics in soil. Dr. Hillmyer could have asked one or more of these scientists to perform tests of the Rogers product or similar components in other products, but he did not.

Among the key considerations in assessing scientific opinions is whether "proffered expert opinion has the required indicia of scientific reliability: whether a theory or technique had been and could be tested, whether it had been subjected to peer review, its error rate, and its degree of acceptance within the relevant scientific community." *In re Mirena IUD Prod. Liab. Litig.*, 169 F. Supp. 3d 396, 412 (S.D.N.Y. 2016), citing *Daubert*, 509 U.S. at 593–94, 113 S.Ct. 2786. "Scientific methodology ... is based on generating hypotheses and testing them to see if they can be falsified." *Daubert*, 509 U.S. at 593. When a scientific theory is merely offered by an expert without testing, it is subject to exclusion. *In re Mirena IUD Prod. Liab. Litig.*, 169 F. Supp. 3d 396, 430 (S.D.N.Y. 2016) (excluding theory and stating "No testing of the hypothesis was

³ Dr. Hillmyer elsewhere noted that he is not contesting that the PLA components of OneCups were industrial compostable, and at least one version of the entire OneCup was industrial compostable. Ex. C at 24:1-5, 25:6-11. While his focus was not industrial compostability, he nevertheless could have asked the University of Georgia lab if they had relevant equipment for testing the pods in other conditions.

conducted. This exercise does not seem to have involved any scientific methodology . . . This does not rise to the level of intellectual rigor employed in the medical or scientific field.”), citing *Kumho Tire Co.*, 526 U.S. at 152; *Faulkner v. Arista Records LLC*, 46 F.Supp.3d 365, 381 (S.D.N.Y.2014) (“[M]ethodology . . . aimed at achieving one result . . . is unreliable, and . . . must be excluded.”).

Having not done or offered any scientific testing on which to base his opinions, there is no reliable scientific basis for Dr. Hillmyer’s opinions on the rate of degradation of OneCups in landfills, composting conditions, or soil more generally. Those opinions are therefore inadmissible.

C. Dr. Hillmyer’s opinions lack scientific reliability and bases.

Having failed to do any firsthand work, Dr. Hillmyer falls back on parroting the analysis done by others in scientific publications; but that does not save him because the literature he relies on does not provide a sufficient foundation for his opinions, and he lacks the experience opine based on the literature. *Huskey v. Ethicon, Inc.*, 29 F. Supp. 3d at 722; *Tyree v. Bos. Sci. Corp.*, No. 2:12-CV-08633, 2014 WL 5486694, at *48. In particular, there is insufficient basis in the scientific literature to reliably opine on how long JBR’s OneCups would take to degrade in any particular set of conditions.

It is not enough for an opinion to be scientifically plausible if the work of validating the scientific opinion had never actually been proven. *In re Accutane Prods. Liab.*, 511 F.Supp.2d 1288, 1296 (M.D. Fla. 2007) (“While [the expert’s] biological theory may be exactly right, at this point it is merely plausible, not proven, and biological possibility is not proof of causation.”); *Golod v. La Roche*, 964 F.Supp. 841, 860–61 (S.D.N.Y.1997) (“[A]lthough [the expert’s] theory may be biologically plausible, it does not constitute ‘scientific knowledge’ within the meaning of Daubert. Instead, it is, at most scientifically-grounded speculation: an untested and potentially untestable hypothesis. Although there may be circumstances in which a scientific hypothesis that

is, practically speaking, untestable, would nevertheless be admissible, perhaps because of general acceptance in the scientific community, this is not such a case.”). “[T]he courtroom is not the place for scientific guesswork, even of the most inspired sort. Law lags science; it does not lead it.” *In re Mirena IUD Prod. Liab. Litig.*, 169 F. Supp. 3d 396, 431 (S.D.N.Y. 2016), quoting *Rosen v. Ciba-Geigy Corp.*, 78 F.3d 316, 319 (7th Cir.1996).

Fundamentally, the science for measuring degradation of biodegradable plastic products (especially products made with PLA) in field conditions is relatively new, speculative, and unproven. Ex. D at 117:11-118:4, 118:11-18, 195:11-200:21; Ex. E, ¶¶ 63-66; Ex. C at 55:21-58:19. Although he cited a few small preliminary lab studies to simulate real world conditions, Dr. Hillmyer could not point to any data showing that those studies mimic the conditions actually found in real world landfills or compost locations in the United States. Ex. C at 66:2-67:8:

- Q. Do we know how many landfills have the same temperature conditions reflected in the Kolstad report?
- A. Do we know? Are you asking me do I know?
- Q. The scientific community.
- A. The scientific community. The variability among landfills, *I'm not sure that I can answer that.* I think that my understanding of landfill conditions, as you described earlier with respect to sunlight, are variable. So you asked me how do we know the number, "we" the scientific community. *I don't know that.*
- Q. All right. To your knowledge, is there any sort of database of information on the thousands of landfills in America relating to temperature, sunlight exposure, microorganism count, oxygen level, enzyme type, enzyme concentration?
- A. *I don't cite any of those studies,* to the best of my recollection, in my expert report.
- Q. Do they exist?
- A. In many of your questions asking me do they exist, I will say that as a scientist I understand the kinds of things people study. So *I would expect that they exist. Would you actually like me to produce them is a different story.* So I'm trying to answer in a way which I think is scientifically honest. So they *probably exist.*
- Q. Are you aware of them? Have you seen them?
- A. *I have -- I have not.*

Nor could he point to any available studies in which PLA or products made from it have actually been tested in the real world in landfills to see how fast they degrade. Nor does he point any citation to anyone testing PLA products similar to JBR's in composting conditions in the U.S. Ex. C at 73:10-18. And certainly, there are no studies in which the OneCup product at issue or any product like it in size, shape, and composition, has been tested in the real world.

The one entity that has attempted to match the industry standard is Rogers, which had its products and constituent components certified, the same process Keurig undertakes when it had products certified as compostable. Ex. E, ¶¶ 70, 82-88, 92. Dr. Hillmyer does not dispute that the certifications were obtained by JBR, or dispute the adequacy of the testing that provided the basis for those certifications. Ex. C at 23:25-24:5, 94:19-96:3. In short, with no first-hand knowledge of any attributes of the OneCup product other than its weight and its certifications, Dr. Hillmyer has no basis to opine on how long it takes for the OneCup to degrade in any particular composting or landfill conditions, or general soil environment.

Dr. Hillmyer readily admits that he is unaware of any literature that actually has tested the OneCup product in real word soil conditions as they exist in any landfill. *Id.* at 53:2-18. Dr. Hillmyer therefore lacks any reliable basis to opine that PLA products in general, or the Rogers product specifically, have a particular rate of degradation in American landfill conditions. Likewise, since no has tested the product in a compost sample or soil, Dr. Hillmyer has no reliable basis to opine on rate of degradation in those conditions.

Similarly, Dr. Hillmyer was unable to cite to any studies testing PLA products or the Rogers product in particular in-home compost conditions. *Id.* What is more, he acknowledged that Rogers has never claimed that its product was home compostable. In spite of the lack of any suggestion that Rogers claims home compostability, he offers a highly prejudicial and baseless

opinion that Rogers' product is not home compostable. Ex. A at ¶¶ 53, 62, 65, 66, 72, 75, 76.

Because this opinion is unsupported, it should be excluded.

IV. CONCLUSION

Because Dr. Hillmyer's opinions on degradation are based on insufficient relevant experience and lack a basis in testing, validation, and reliable scientific knowledge, they should be excluded.

Dated: August 18, 2021

Respectfully submitted,

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